



Memorandum

TO: TRANSPORTATION AND
ENVIRONMENT COMMITTEE

FROM: John Stufflebean

SUBJECT: ORDINANCE ON INDOOR USE OF
RECYCLED WATER

DATE: 07-31-09

Approved

Date

8/6/09

RECOMMENDATION

Accept this report and recommend that it be placed on the Council agenda for discussion, with a recommendation that the City Attorney's Office be directed to draft an ordinance amending the San Jose Municipal Code to:

(1) Prohibit the use of potable water for indoor uses for which recycled water is allowed in non-residential buildings where:

- (a) Plumbing for recycled water has been installed in compliance with the provisions of the Plumbing Code and
- (b) Recycled water is available to the property.

(2) Condition development approval on the installation of plumbing that allows for the use of recycled water, in compliance with the provisions of the Plumbing Code, where:

(a) The project includes new non-residential buildings equal to or larger than 50,000 square feet; mixed-use buildings in which the non-residential area is equal to or larger than 50,000 square feet, or new non-residential or mixed-use buildings situated on a site equal to or greater than 100,000 square feet; or

(b) The project is located within one-half mile of existing South Bay Water Recycling pipelines, pipelines that are included in the South Bay Water Recycling five year capital improvement budget, or pipelines that are otherwise likely to be installed within five years; and includes new non-residential buildings equal to or larger than 5,000 square feet or mixed-use buildings in which the non-residential area is equal to or larger than 5,000 square feet, or new non-residential or mixed-use buildings situated on a site equal to or greater than 10,000 square feet.

OUTCOME

Council direction will result in the preparation of an ordinance designed to increase the use of recycled water in conformance with the City's Green Vision goal of achieving 100% recycling or beneficial reuse of all wastewater by 2022. This result will be accomplished by requiring that new non-residential developments in San Jose that are either near the South Bay Water Recycling (SBWR) pipeline or located where there is an expectation that the SBWR pipeline will be extended in the future will be constructed in such a way that they can utilize recycled water for indoor uses including but not limited to cooling and toilet flushing. A subsequent memorandum will address the issue of funding pipeline extensions to reach these developments.

BACKGROUND

Adoption of an ordinance to expand criteria for the use of recycled water in new development Has been identified as a strategic focus priority for advancing the Green Vision in 2009. The 2009 Green Vision work plan was adopted by the City Council at its Special Session on March 9, 2009.

Existing Municipal Code provisions facilitate the use of recycled water for irrigation in two ways. First, the Code prohibits the use of potable water for irrigation "*where an irrigation system has been installed to allow for use of reclaimed water and reclaimed water is available to the property for irrigation use*" (15.10.295). Second, the Code further requires that landscaped areas greater than 10,000 square feet "*shall be designed and installed to allow for the current and future use of reclaimed water*" (15.11.260). An exception is made "*where the director of planning grants an exemption on the basis that reclaimed water is not available, and will not be available in the foreseeable future, to serve the project.*"

It is recommended that an ordinance be developed imposing a requirement for indoor water use that is comparable to the requirement for landscaping that is in San Jose Municipal Code (SJMC) Section 15.10.295, to require indoor and industrial use of recycled water in non-residential buildings. This would have the effect of prohibiting the use of potable water for toilet flushing, cooling and other certified indoor uses where 1) an appropriate plumbing system has been installed for use of recycled water and 2) recycled water is available.

It is also recommended that an ordinance be developed for indoor water use that is similar to the current requirements of Chapter 15.11 of the Code related to landscape irrigation. This would require the construction of dual plumbing systems in larger non-residential buildings, allowing for the use of recycled water if and when it is available. It is proposed that the requirement for dual plumbing be more limited than the requirement related to landscape irrigation, however, because the separation of recycled and potable plumbing inside buildings represents an additional construction expense as high as 2% of total building cost (5% to 20% of additional plumbing cost). In contrast irrigation systems are frequently constructed separately and at a lower cost. As a result, it is recommended that the indoor use dual plumbing ordinance be

limited to those developments located within one-half mile of existing SBWR pipelines, pipelines that are included in the SBWR five year capital improvement budget, or pipelines that are otherwise likely to be installed within five years. The latter category would include where recycled water is planned to be made available as part of another development.

ANALYSIS

In 1998 the City began operation of SBWR, a distribution system designed to provide up to 50,000 acre-feet of recycled water per year to local parks, schools, businesses and industrial facilities. In 2008 the SBWR system distributed over 10,000 acre-feet of recycled water to more than 570 customers in Milpitas, Santa Clara and San Jose City. Notwithstanding the success of the program in diverting flow from south San Francisco Bay and preserving scarce drinking water supplies, it is estimated that as much as an additional 2000 to 3000 acre-feet of recycled water could be used each year for indoor purposes such as toilet flushing, cooling water and industrial applications by commercial and industrial facilities adjacent to or in the vicinity of the SBWR pipeline. While ESD has implemented a program to retrofit those facilities where it is feasible and cost-effective to do so, in some cases the cost of retrofitting facilities for indoor use is prohibitive.

As a precaution to avoid the cost of retroactive conversion, it would be far preferable for such facilities to be initially constructed to allow for indoor use of recycled water. In fact, over the past several years a number of new developments have been required to use recycled water for toilet flushing, cooling, etc. as an environmental mitigation measure imposed after completion of a water supply assessment as required under SB610 enacted by the Legislature in 2001. As a result, these developments such as the new North San Jose Intensification Project, have been built to allow for indoor use of recycled water, increasing the total amount recycled water used in San Jose and reducing demand for drinking water while avoiding the additional cost of retrofitting the existing plumbing systems.

Although all development is required to obtain environmental clearance under CEQA, not all developments are required to have an SB610 water supply assessment. However, to maximize recycled water use where appropriate a number of Bay area cities (including Palo Alto and Redwood City) have recently adopted ordinances requiring that new developments be designed and constructed for indoor use of recycled water and use recycled water where available. The ordinance recommended in this memorandum would also require new developments in areas of the City that are or might soon be served by the SBWR pipeline to be constructed in such a manner as to be able to use recycled water for cooling, flushing toilets and other permitted indoor uses.

In order to maximize the cost-effective indoor use of recycled water it is proposed that separate interior potable and nonpotable plumbing systems be required where the non-residential component is larger than 5000 sf in area or where the total site area is larger than 10,000 sf, and the development is located within one-half mile (2640 feet) of the existing or planned SBWR

pipeline (see attached map). In addition, it is further proposed that separate interior potable and nonpotable plumbing systems be required for all developments where the non-residential component is larger than 50,000 square feet in area or where the total site area is larger than 100,000 sf regardless of the location of the project. In the first instance, the building is sufficiently close to the pipeline that it can be extended to the property within a five-year period. In the second instance, the size of the facility and its potential demand for recycled water may be sufficient to stimulate further extension of the pipeline to the property within a five-year period.

It should be noted that, in addition to supporting the City's Green Vision Goal #6, ordinances requiring the design of facilities suitable for the indoor use of recycled water and mandating its use when available would reinforce the Private Sector Green Building Ordinance (proposed San José Municipal Code, Chapter 17.84) including requiring commercial industrial buildings greater than 25,000 square feet to be Leadership in Energy and Environmental Design (LEED) Silver or greater according to the standards established by the U.S. Green Building Council. Such facilities that reduce their potable water consumption by 40% or more through the use of recycled water for indoor cooling, toilet flushing etc. could significantly improve their ability to achieve the required LEED certification.

EVALUATION AND FOLLOW-UP

Upon Council approval of the recommendations presented, the City Attorney will draft an Ordinance which will be presented for consideration by the Council with the required CEQA documentation.

POLICY ALTERNATIVES

Alternative #1: Require uses of recycled water only by projects required to have water supply assessment (SB610).

Pros: New developments that are not required have a water supply assessments would have approximately 2% lower building costs because they would not be required to install dual plumbing systems allowing for indoor use of recycled water.

Cons: New developments that are not constructed in accordance with design guidelines will not be able to use recycled water for indoor applications when the recycled water system is extended to their properties. Alternatively, these buildings will have to have appropriate dual plumbing systems installed as a retrofit and substantially higher cost.

Reason for not recommending: By requiring all new developments to be constructed to use recycled water for indoor applications San Jose buildings will be better able to use recycled water when the SBWR pipeline is extended to their properties, maximizing the use of recycled water and contributing to the realization of the City's Green Vision goal.

Alternative #2: Do not require indoor uses of recycled water, but provide it as an option on a voluntary basis.

Pros: Voluntary construction in accordance with guidelines for indoor use of recycled water would allow builders the option of choosing not to incur the additional expense of constructing a dual plumbing system.

Cons: Voluntary construction in accordance with guidelines for indoor use of recycled water would leave many buildings unable to utilize recycled water when the SBWR pipeline reached their property.

Reason for not recommending: Requiring dual plumbing on a mandatory basis for larger buildings will facilitate cost-effective connection to the recycled water system, increase the use of recycled water, reduce wastewater discharge and demand on potable supplies and help ensure the accomplishment of the City's Green Vision goal.

PUBLIC OUTREACH/INTEREST

The concept of an ordinance requiring design for indoor use of recycled water was first presented and discussed with representatives of the development and building communities at the Developers Roundtable in January 2008 and at the Builders Roundtable in June and September 2008. A special focus group was held with representatives from engineering design firms, development companies and the Building Owners and Managers Association (BOMA) on December 9, 2008 at which the features of the proposed ordinance were presented and discussed in detail. After drafting, additional opportunities for input will be provided to companies and individuals potentially impacted by the proposed ordinance, and additional notification will be provided to interested parties through the CEQA review process.

The criteria below do not apply to this staff report

- ☐ **Criteria 1:** Requires Council action on the use of public funds equal to \$1 million or greater. **(Required: Website Posting)**
- ☐ **Criteria 2:** Adoption of a new or revised policy that may have implications for public health, safety, quality of life, or financial/economic vitality of the City. **(Required: E-mail and Website Posting)**
- ☐ **Criteria 3:** Consideration of proposed changes to service delivery, programs, staffing that may have impacts to community services and have been identified by staff, Council or a Community group that requires special outreach. **(Required: E-mail, Website Posting, Community Meetings, Notice in appropriate newspapers)**

COORDINATION

This memorandum has been coordinated with the Department of Planning, Building and Code Enforcement, Public Works Department, and the City Attorney's Office.

CEQA

Exempt.

A handwritten signature in black ink, appearing to read 'John Stufflebean', with a stylized flourish at the end.

JOHN STUFFLEBEAN
Director, Environmental Services

For questions please contact Mansour Nasser, Deputy Director, Environmental Services Department, at (408)277-2558

Attachment 1: SBWR Service Area Map